

U.S. DEPARTMENT OF ENERGY

**WORKING
CAPITAL FUND**

Financial Evaluation Update, (1997-2003)

Working Capital Fund Benefit/Cost Analysis Update, (1997-2003)

Introduction

The purpose of this paper is to update the financial benefit/cost analysis for the Working Capital Fund to include estimated Fund financial results for FY 2003.

This paper relies on the basic methodology set forth in the October 2001 report, *Working Capital Fund Benefit/Cost Analysis, (1997-2001)* and the September 2002 report, *Working Capital Fund Benefit/Cost Analysis Update (1997-2002)*. Specifically, it compares the Department's average annual spending levels for the services included in the Fund for the four years **before** the creation of the Fund to the seven years **since** creation of the Fund. Spending levels in the pre-Fund era are calculated from budget obligations, whereas spending levels since creation of the Fund are calculated as billings to program office customers. The data referred to in the text are included in Appendix A.

Summary of Results:

- **During the seven years of the Fund, the average annual costs of continuing businesses decreased by over \$9 million per year or over 10% in current (as spent) dollars. When inflation is taken into consideration, the savings from the Fund are estimated to be as high as \$17.3 million/year or slightly over \$120 million over the life of the Fund in constant FY 1996 dollars.**
- **While there are many qualifiers on this analysis, the evidence remains strong that the Department has achieved substantial net economic benefits from the market-like approach of the Fund to the provision of common administration services to Headquarters.**

WCF Trend Overview

This analysis includes eleven fiscal years of expenditures, covering FY 1993 through FY 2003.¹ The Fund was created in the FY 1997 budget process, so the first four fiscal years (FY 1993-96) in the data series represent the Department's spending patterns before the Fund was created, whereas the last seven years of the data series cover the seven fiscal years of Fund operation (FY 1997-2003).

As shown in Table A-1, before adjustments for business composition or for inflation, the spending levels for all the activities that have been included in the Fund have fluctuated from a high of \$94.4 million in FY 1993 to a low of \$79.8 million in FY 1998.²

¹ FY 2004 and FY 2005 estimates are also included to identify emerging trends. The source for these estimates is the December 8, 2003 memorandum from the Fund Manager entitled "Revised FY 2005 projections for the Working Capital Fund."

² Throughout this paper, amounts have been calculated in whole dollars and then rounded, so some tables may not add due to this rounding convention.

The variation in spending levels over time has been relatively low:

- The eleven-year average is \$85 million in current (as-spent) dollars;
- The pre-WCF average is \$86 million;
- The WCF 7-year average is \$84.8 million; and
- Nine of the eleven years have been between \$80 and \$90 million.

Continuing Business Analysis

The composition of the Working Capital Fund has changed over time, with the addition and removal of business activities. The following are examples of these dynamics:

- The DCAA Audits business line was in the Fund for one year only (FY 1997); it was removed in the FY 1998 budget process;
- In FY 1998, the Payroll business line was added, and the CHRIS business line was added for FY 2002;
- The Executive Information System business line was added to the Fund for FY 1999 and FY 2000, but was removed from the Fund for FY 2001;
- Starting in FY 2000, some customers financed improvements of their office space through supplemental payments into the Fund, and for FY 2001, the Board embarked on a policy of making approximately \$3 million/year in upgrades in Headquarters facilities;
- Contract Closeout had been funded in diverse ways before creation of the Fund, so a full 11-year trend does not exist;
- On-Line Learning was added to the Fund in FY 2002 after a pilot period outside the Fund, but this service did not exist in the FY 1993-96 period;
- In FY 2001, the DOENet segment was added to the Network business line, nearly doubling the size of that line;
- For FY 2003, the Board approved changes to the Mail business pricing policy to accommodate, among other factors, additional security procedures put in place after the anthrax problems that arose in 2001; and
- In August 2003, the Board approved a series of pricing policy changes that will affect businesses, starting in FY 2004, including the addition of the Project management Career Development business, the Purchase Card Surveillance business segment, and several measures to include in the Fund certain functions such as cell phones that had previously been operated outside the Fund.
- In early FY 2004, the Board expanded the list of items for inclusion in the Telephone business line so that pagers, electronic devices, and dedicated lines would be within, rather than outside, the WCF billing system.

To adjust for these changes, we are using the concept of “continuing businesses.” This concept is used in private sector financial reports to distinguish between trends due to acquisition or divestiture of businesses and trends that reflect changes for those activities that were managed throughout the period of analysis – the “continuing businesses”.

A further methodological issue is that the cost structure of the Fund businesses during the FY 1997-2002 does not always match the cost classifications during the years prior to the Fund. For example:

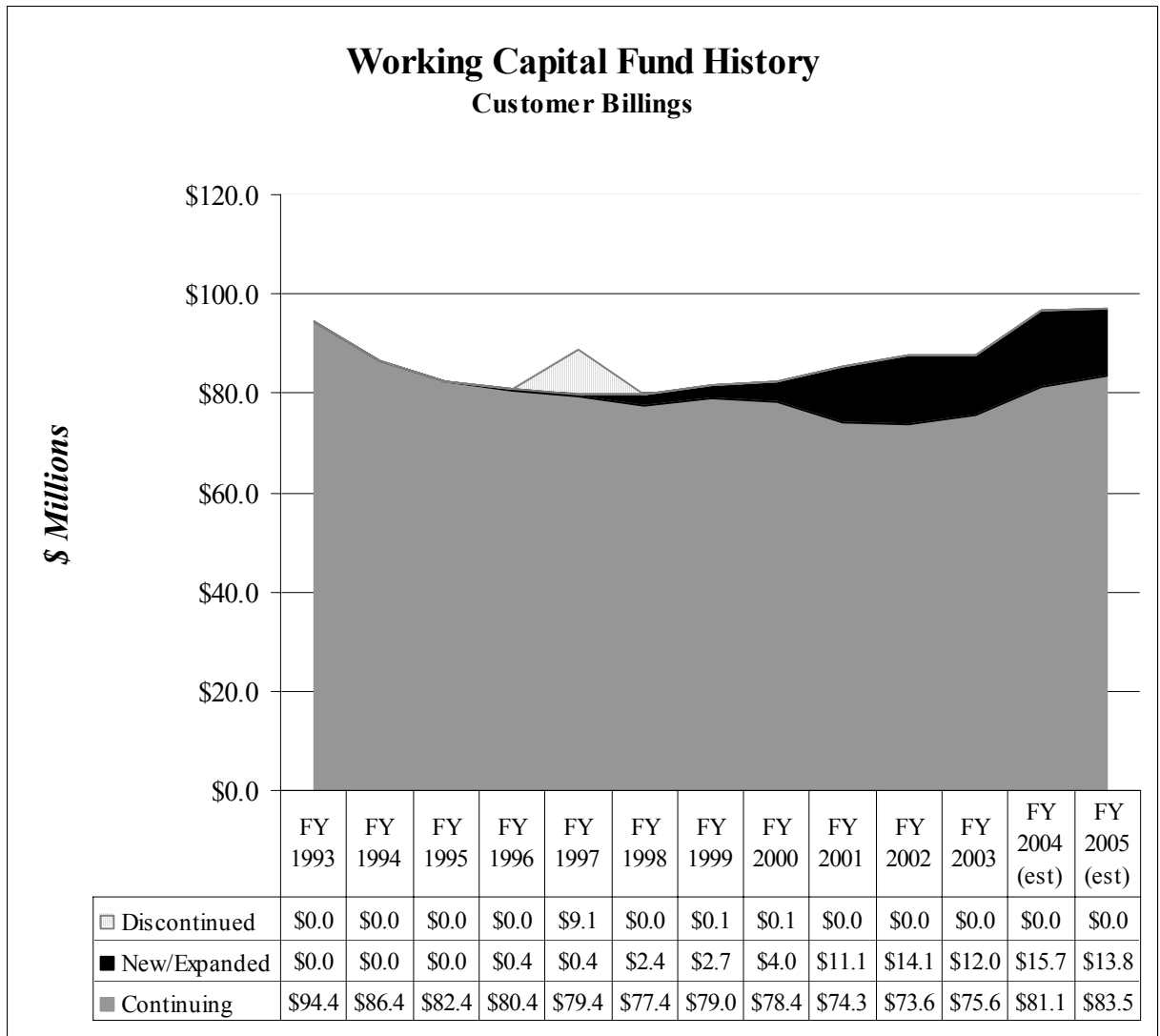
- Prior to FY 1997, the costs of the Information Management business lines were grouped in two classification, Telephone and Desktop, and Network costs were distributed between these lines; and
- The costs of copying paper were borne by what became the Supplies business line, rather than the Copying business line.
- Printed stationery is now sold through the Printing business line, rather than in the privately-operated PaperClips supply store.

To permit an accurate comparison of costs before and after the Fund, therefore, we needed to remove certain activities from the analysis, and we also needed to group the continuing businesses into larger categories to match pre-Fund cost records. Table A-2 starts with the gross business totals from Table A-1 and then identifies new business segments and discontinued activities to be removed from the trend analysis. The remaining data are then grouped into three business areas, displayed in Table A-3.

Figure I below shows how the gross financial level described in Table A-1 converts to a “continuing business” trend line on Table A-2. Most notable is the removal of the one-year business line for audits in FY 1998. Also shown is the gradual addition of business activities to the Fund. Some of the added activities did not even exist in the period before the Fund was created, while others existed in some form but were being paid for by customer organizations outside the Fund. Still others were financed centrally but were not clearly defined or organized as separate cost centers.

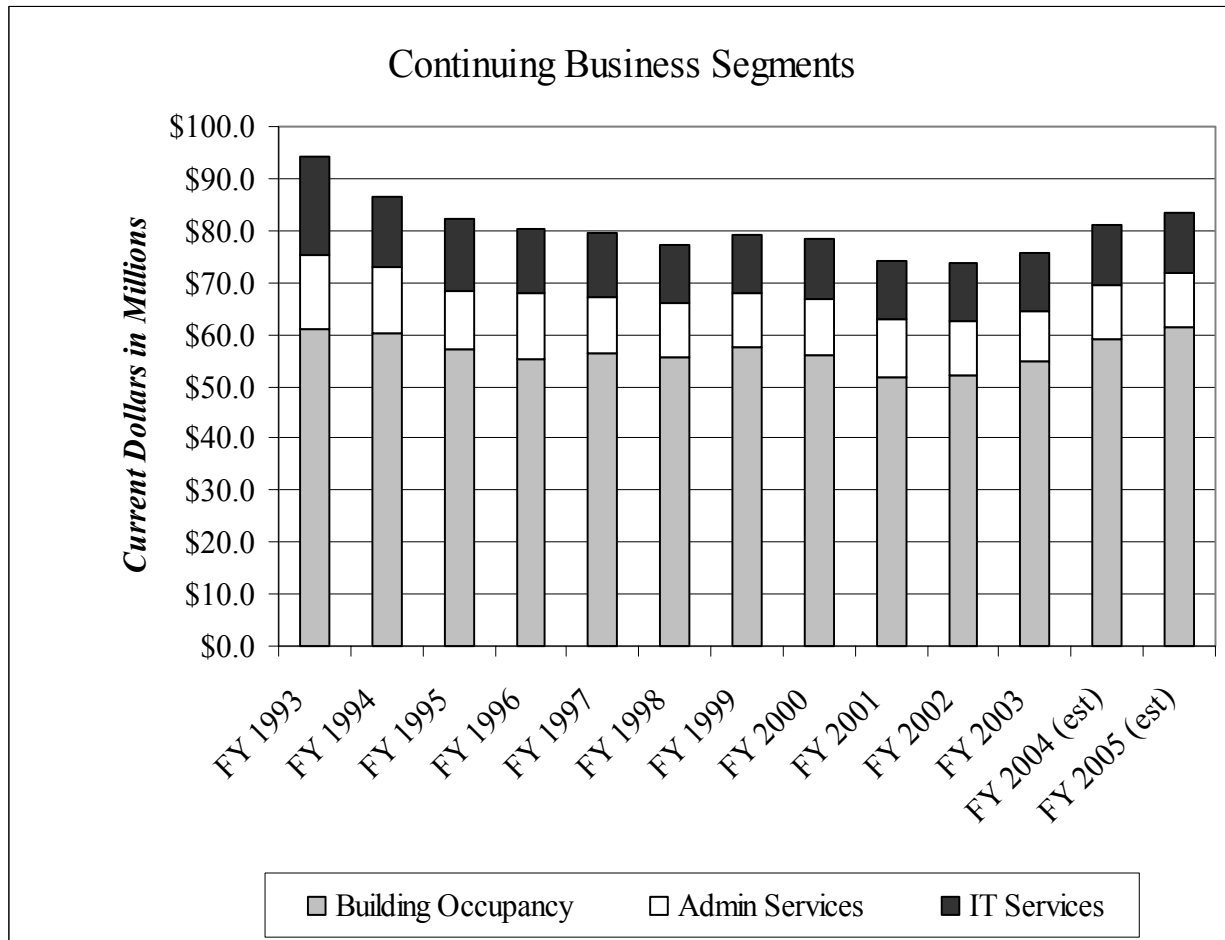
Figure II depicts the information in Table A-3 – the organization of “continuing business line information into three business segments. Figure II illustrates that much of the absolute change in total annual costs is attributable to changes in the Building Occupancy business line. Building Occupancy costs reflect the combined effect of DOE management decisions on Headquarters space requirements and GSA and OMB decisions regarding agency rental charges for the Federal Building Fund. As discussed further below, the relative change, measured in percentage terms, is higher for the two smaller business segments.

Figure I³



³ Information is in cureent (as spent) dollars.

Figure II⁴



Current-Dollar Analysis

As Table 1 below demonstrates, before accounting for inflation effects, the average annual cost of continuing businesses in the Fund has been \$9 million or nearly 11% lower during the seven actual years of Fund operation than in the four years (FY 1993-6) before the Fund was created. Specifically, the average annual cost in FY 1993-96 for all continuing businesses was \$86 million, whereas the seven-year average for Fund billings to customers has been \$76.8 million. Over a seven-year period, savings would total \$64 million.

⁴ Information in Figure II is in current (as-spent) dollars.

There have been cost reductions in all three business areas. The highest absolute reduction has been in the Building Occupancy Business, the largest in the Fund. The largest percentage reduction has been in the Information Technology (IT) business lines.

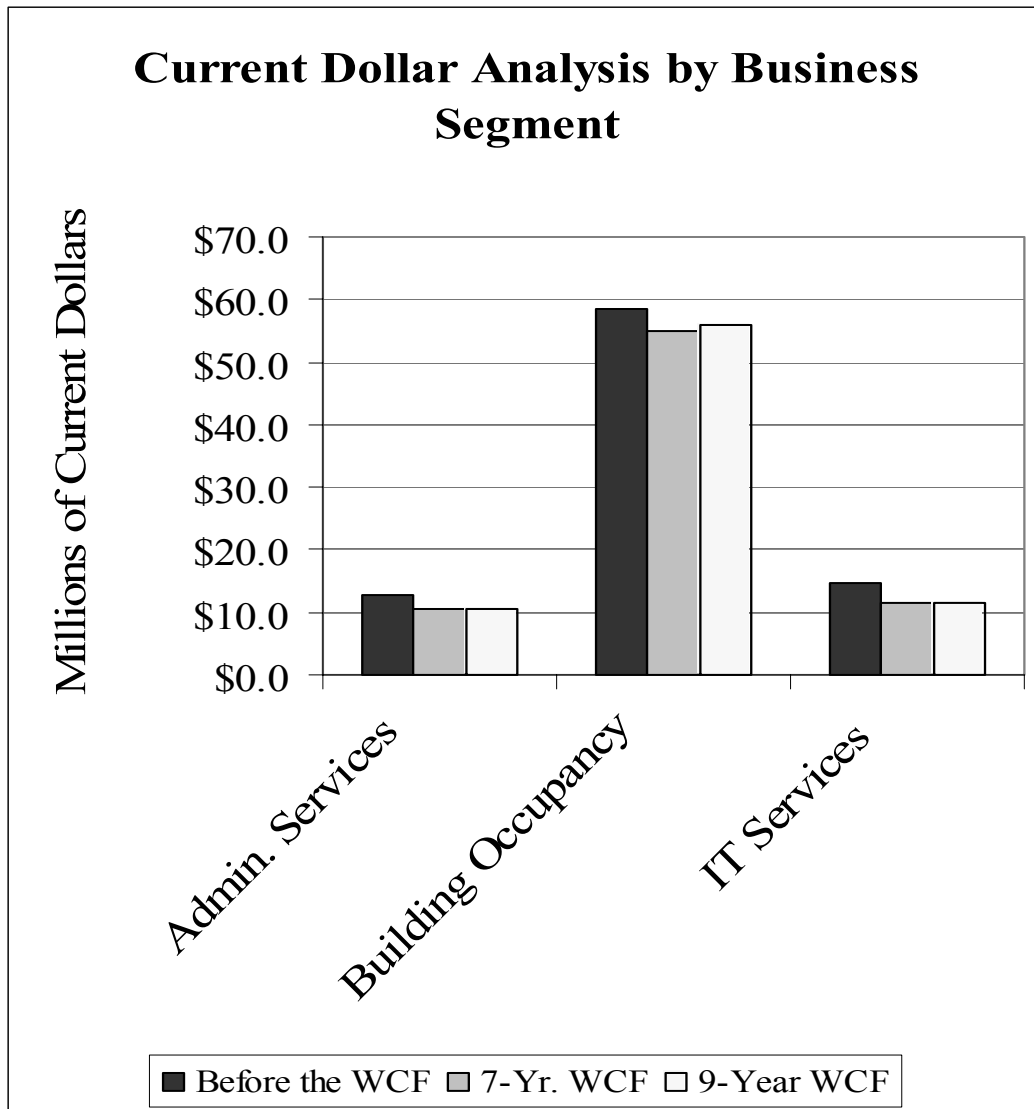
Table 1: 7-Year Analysis: Annual Cost Patterns by Business Area (\$ Current in Millions)				
	Average Annual Costs, FY 1993-96	Average Annual Costs, FY 97-2003	Reduction (\$Millions)	Percent Reduction
Admin. Services	\$12.7	\$10.6	\$2.1	17%
Building Occupancy	\$58.5	\$54.9	\$3.6	6%
IT Services	\$14.8	\$11.4	\$3.4	23%
Total	\$86.0	\$76.8	\$9.1	11%

Table 2 adds two more years of estimated data, for FY 2004 and FY 2005, to derive a 9-year analysis. Figure 3 below displays the data for the 7-year and 9-year analyses in graphic form.

Table 2 provides insight on whether and how the trends associated with projected Fund operations will change the conclusions of the current-dollar analysis. It shows that the Administrative Services and IT Services business areas are expected to remain substantially flat in current dollar costs, thereby maintaining their margin of net savings over the pre-Fund period. However, Building Occupancy costs are expected to rise in FY 2004 and FY 2005 based on GSA pricing methodologies for the Public Building Fund, and these price increases will reduce the margin of net savings for this business area from 6% for 7 years to 4% for 9 years.

Table 2: 9-Year Analysis: Annual Cost Patterns by Business Area (\$ Current in Millions)				
	Average Annual Costs, FY 1993-96	Average Annual Costs, FY 97-2005 Est.	Reduction (\$Millions)	Percent Reduction
Admin. Services	\$12.7	\$10.6	\$2.1	17%
Building Occupancy	\$58.5	\$56.0	\$2.5	4%
IT Services	\$14.8	\$11.4	\$3.4	23%
Total	\$86.0	\$78.0	\$8.0	9%

Figure III⁵



⁵ Reflects Current (as-spent) dollars

Constant Dollar Analysis

The analysis above is in “current dollars”, unadjusted for inflation effects. In this section, these data are converted to “constant” dollars, removing the effects of inflation. Table A-4 uses the OMB deflator for Federal Non-Defense Expenditures⁶ to convert the continuing business data from Table A-2 to constant FY 1996 dollars. Figure IV compares the trends for continuing business in current (“as spent”) dollars (solid line) to constant FY 1996 dollars (solid line plus symbols).

Figure IV

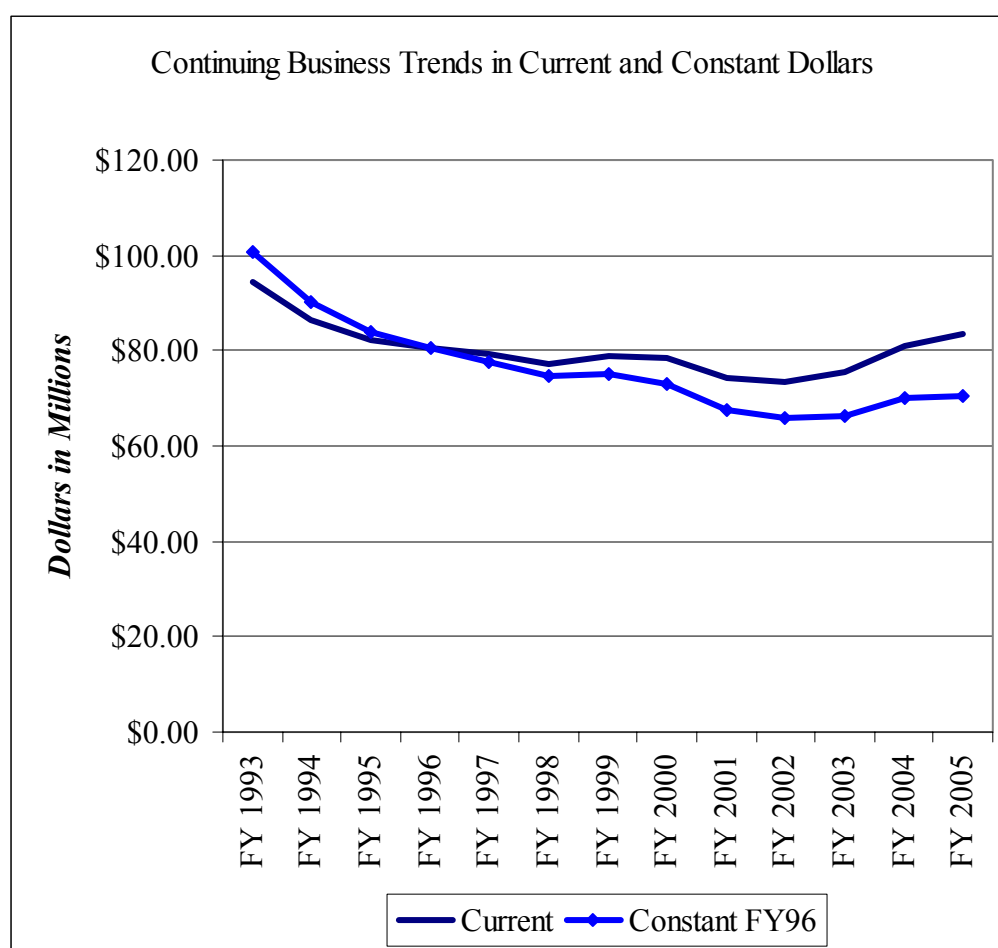


Figure IV demonstrates the consistent decline in continuing business spending during the period of analysis – until FY 2004. As discussed further below, FY 2004 reflects increases in Building Occupancy costs that exceed projected inflation rates.

⁶ Taken from Table 10.1 of the “Historical Tables” section of the *Budget of the United States Government, FY 2004*

Table 3 below compares the average annual costs by business area before the Fund was created to the average annual costs during the seven-year period of Fund operation. Because these data are adjusted to FY 1996 dollars, the annual costs shown for the pre-Fund period are higher than the current dollar analysis in Table 1, whereas the constant FY 1996 dollar costs for the FY 1997-2003 period are lower. This expands the estimated net savings from Fund operation to \$17.4 million/year or 19.5% in real FY 1996 dollars. Over the seven-year period of Fund operation, total savings would amount to slightly over \$120 million under this methodology.

Table 3: 7-Year Analysis: Annual Cost Patterns by Business Area (Constant \$ FY 1996 in Millions)				
	Average Annual Costs, FY 1993-96	Average Annual Costs, FY 97-2003	Reduction (\$Millions)	Percent Reduction
Admin. Services	\$13.1	\$9.9	\$3.2	25%
Building Occupancy	\$60.5	\$51.1	\$9.4	15%
IT Services	\$15.3	\$10.6	\$4.8	31%
Total	\$88.9	\$71.5	\$17.4	19.5%

Table 4 adds projections for FY 2004 and FY 2005 to derive a nine-year analysis in real 1996 dollars. It demonstrates that if the projections for the next two years are accurate, there will continue to be net financial benefits to the Fund, possibly exceeding \$150 million (9 times annual savings of \$17.6 million) through FY 2005. While Figure III shows slight annual cost increases in FY 2004-5 over FY 2003, the costs for these two estimated years are nevertheless below the average for the entire period since Fund creation and hence below the historical period from which benefits are measured.

Table 4: 9-Year Analysis: Annual Cost Patterns by Business Area (Constant \$ FY 1996 in Millions)				
	Average Annual Costs, FY 1993-96	Average Annual Costs, FY 97-2005 (est)	Reduction (\$Millions)	Percent Reduction
Admin. Services	\$13.1	\$9.7	\$3.5	26%
Building Occupancy	\$60.5	\$51.2	\$9.3	15%
IT Services	\$15.3	\$10.5	\$4.9	32%
Total	\$88.9	\$71.3	\$17.6	19.9%

Discussion

Both the current –dollar and constant-dollar analyses strongly suggest that there have been significant net economic benefits to the creation and seven-year operation of the Working Capital Fund. These benefits are projected to continue. The more extensive methodological discussion in the methodological notes and comments in Appendix B are intended to recognize that there are and will be a number of different ways to approach this subject. Specifically, there are factors such as customer satisfaction, customer choice, net earnings, business-type financial accounting, and the current exclusion of Federal employee salaries and expenses that need to be

considered, even if they are not easily incorporated into a single bottom-line analysis. Appendix B categorizes some of these other considerations in terms of whether they would tend to add to or detract from the conclusions of this analysis.

Notwithstanding the inevitable analytic limitations, this analysis shows a clear, systematic, and substantial pattern of cost reduction since the creation of the Fund.

Appendix A

Table A-1: Working Capital Fund Financial Evaluation Data (Current Dollars)													
	(Obligations in \$ Millions)				(Earnings in \$ Millions)								
	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004 est.	FY 2005 est.
Supplies/PaperClips	\$3.7	\$2.8	\$3.1	\$3.3	\$2.6	\$2.8	\$3.0	\$2.8	\$2.9	\$3.3	\$2.4	\$2.5	\$2.5
Mail	\$3.4	\$3.4	\$2.2	\$4.6	\$2.2	\$1.9	\$1.7	\$1.6	\$1.7	\$2.0	\$2.6	\$2.6	\$2.8
Copying	\$1.5	\$1.1	\$1.3	\$1.0	\$2.2	\$2.7	\$2.5	\$2.7	\$2.4	\$2.0	\$2.4	\$2.5	\$2.5
Printing/Graphics	\$5.7	\$5.4	\$4.3	\$3.8	\$3.9	\$3.3	\$3.5	\$3.5	\$4.1	\$3.2	\$2.8	\$2.9	\$3.0
Building Occupancy	\$60.9	\$60.4	\$57.3	\$55.2	\$56.4	\$55.5	\$57.4	\$56.1	\$51.8	\$52.0	\$54.7	\$59.1	\$61.3
Improvements					\$0.0	\$0.0	\$0.0	\$1.3	\$4.6	\$4.6	\$4.2	\$3.0	\$3.0
Telephones	\$9.2	\$6.4	\$6.1	\$7.1	\$6.8	\$6.6	\$6.3	\$7.0	\$6.8	\$6.8	\$6.5	\$6.6	\$6.6
Cell Phones, Etc.					\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.7	\$1.7
Desktop	\$10.0	\$6.9	\$8.1	\$5.4	\$2.3	\$1.5	\$1.6	\$1.4	\$1.2	\$1.2	\$1.1	\$1.2	\$1.2
Network					\$3.1	\$3.1	\$3.1	\$3.2	\$3.4	\$3.5	\$3.5	\$4.0	\$4.0
DOENet					\$0.0	\$0.0	\$0.0	\$0.0	\$2.7	\$2.7	\$2.7	\$1.9	\$1.9
Contract Closeout				\$0.4	\$0.4	\$0.4	\$0.6	\$0.5	\$0.7	\$0.8	\$0.8	\$0.8	\$0.7
Purch Card Surveillance					\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	\$0.3
Payroll					\$0.0	\$1.9	\$2.1	\$2.2	\$3.1	\$3.1	\$1.4	\$2.1	\$1.9
CHRIS					\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2.2	\$2.2	\$2.2	\$2.2
EIS					\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Audits					\$9.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
On-Line Learning					\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	\$0.3	\$0.3	\$0.3
Other Training					\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	\$0.3
PMCDP					\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2.5	\$1.0
Total	\$94.4	\$86.4	\$82.4	\$80.8	\$89.0	\$79.8	\$81.7	\$82.5	\$85.4	\$87.7	\$87.6	\$96.8	\$97.2

Table A-2: Working Capital Fund Continuing Business Data (Current Dollars)

	(Obligations in \$ Millions)				(Earnings in \$ Millions)								
	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004 (est)	FY 2005 (est)
<i>Gross Total (from A-1)</i>	\$94.4	\$86.4	\$82.4	\$80.8	\$89.0	\$79.8	\$81.7	\$82.5	\$85.4	\$87.7	\$87.6	\$96.8	\$97.2
<i>Discontinued Businesses</i>													
EIS	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Audits	\$0.0	\$0.0	\$0.0	\$0.0	\$9.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total	\$0.0	\$0.0	\$0.0	\$0.0	\$9.1	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<i>New/Expanded Businesses</i>													
Mail: 9/11 Supplement	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.2	\$0.2	\$0.2
Building Improvements	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.3	\$4.6	\$4.6	\$4.2	\$3.0	\$3.0
Desktop: Virus Supplement	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.2	\$0.2	\$0.2
Cell Phones, etc.	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.7	\$1.7
DOENet	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2.7	\$2.7	\$2.7	\$1.9	\$1.9
Contract Closeout	\$0.0	\$0.0	\$0.0	\$0.4	\$0.4	\$0.4	\$0.6	\$0.5	\$0.7	\$0.8	\$0.8	\$0.8	\$0.7
Purch. Card Surveillance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.5	\$0.3
Payroll	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.9	\$2.1	\$2.2	\$3.1	\$3.1	\$1.4	\$2.1	\$1.9
CHRIS	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2.2	\$2.2	\$2.2	\$2.2
On-Line Learning	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	\$0.3	\$0.3	\$0.3
Other Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	\$0.3
PMCDP	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$2.5	\$1.0
Total	\$0.0	\$0.0	\$0.0	\$0.4	\$0.4	\$2.4	\$2.7	\$4.0	\$11.1	\$14.1	\$12.0	\$15.7	\$13.8
<i>Continuing Businesses</i>	\$94.4	\$86.4	\$82.4	\$80.4	\$79.4	\$77.4	\$79.0	\$78.4	\$74.3	\$73.6	\$75.6	\$81.1	\$83.5

Table A-3: Working Capital Fund Continuing Business Segments (Current Dollars)													
	(Obligations in \$ Millions)				(Earnings in \$ Millions)								
	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004 (est)	FY 2005 (est)
Continuing Businesses(from A-2)	\$94.4	\$86.4	\$82.4	\$80.4	\$79.4	\$77.4	\$79.0	\$78.4	\$74.3	\$73.6	\$75.6	\$81.1	\$83.5
Segments;													
Admin. Services	\$14.3	\$12.7	\$10.9	\$12.7	\$11.0	\$10.7	\$10.6	\$10.6	\$11.0	\$10.3	\$9.9	\$10.3	\$10.5
Building													
Occupancy	\$60.9	\$60.4	\$57.3	\$55.2	\$56.4	\$55.5	\$57.4	\$56.1	\$51.8	\$52.0	\$54.7	\$59.1	\$61.3
IT Services	\$19.2	\$13.3	\$14.2	\$12.5	\$12.1	\$11.2	\$11.0	\$11.7	\$11.4	\$11.2	\$11.0	\$11.7	\$11.7
Discontinued	\$0.0	\$0.0	\$0.0	\$0.0	\$9.1	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
New/Expanded	\$0.0	\$0.0	\$0.0	\$0.4	\$0.4	\$2.4	\$2.7	\$4.0	\$11.1	\$14.1	\$12.0	\$15.7	\$13.8

Table A-4: Working Capital Fund Continuing Business Segments (Constant 1996 Dollars)													
	(Obligations in \$ Millions)				(Earnings in \$ Millions)								
	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004 (est)	FY 2005 (est)
OMB Deflator for Non-Defense Expenditures	0.9372	0.9566	0.9797	1.0000	1.0205	1.0338	1.0492	1.0752	1.1002	1.1155	1.1378	1.1605	1.1830
Admin. Services	\$15.3	\$13.3	\$11.1	\$12.7	\$10.7	\$10.3	\$10.1	\$9.8	\$10.0	\$9.3	\$8.7	\$8.9	\$8.9
Building													
Occupancy	\$65.0	\$63.1	\$58.5	\$55.2	\$55.2	\$53.7	\$54.7	\$52.2	\$47.1	\$46.6	\$48.1	\$50.9	\$51.8
IT Services	\$20.5	\$13.9	\$14.5	\$12.5	\$11.9	\$10.8	\$10.5	\$10.9	\$10.4	\$10.1	\$9.6	\$10.1	\$9.9
Total, Continuing Businesses	\$100.7	\$90.3	\$84.1	\$80.4	\$77.8	\$74.9	\$75.3	\$72.9	\$67.5	\$66.0	\$66.4	\$69.9	\$70.6

Methodological Notes on Working Capital Fund Evaluation

There are a number of factors that have not been taken explicitly into consideration in the Working Capital Fund benefit/cost analysis. This section discusses these factors in terms of whether, had they been included, they would have added to or detracted from conclusions about the net efficiency of the Fund.

Background

The Department's Working Capital Fund is an intra-governmental revolving fund – one of approximately three dozen such funds in 20 different Federal agencies. Over 10% of the Federal civilian workforce is employed in activities financed by such funds, and their combined revenues of over \$100 billion would place them in the top 10 largest companies in the Fortune 500.

These funds are not easy to evaluate. They are not especially well analyzed through the PART tool because they typically finance outputs that become inputs to other Federal activities, rather than final goods or services for use by taxpayers. Also, some of the products and services available through intra-governmental service funds are also available outside such funds, so the net value-added of the fund mechanism *per se* is not simple to quantify.

The objectives of the DOE Working Capital Fund can be summarized as:

- Improve the **efficiency** of administrative services by providing managers with the opportunity and responsibility to make choice on the amount, priority, and, where possible, the sources of administrative services used by their programs;
- Ensure that program mission budgets include a **fair allocation** of the costs of common administrative services; and
- Expand the **flexibility** of the Department's budget structure to permit service providers to respond to customer needs.

Direct observation of efficiency, fairness, and flexibility is difficult, especially when one considers the wide variety of services provided through the Fund. The orientation of this financial benefit-cost analysis is one aspect of the Fund objectives – efficiency – and is further limited by a focus on costs. The tacit assumption is that, for continuing businesses, one can hold output to have been maintained such that a comparison of inputs will alone be conclusive. The further assumption is made that costs can be best measured from the perspective of customer billings, rather than business expenses.

There are a number of reasons why the assumptions made in this analysis should be challenged, but there are no foolproof ways to introduce alternative assumptions without creating risks to the rigor of the financial analysis. In the following sections, we discuss some alternative factors that could be included in the evaluation, organized in terms of whether one could reasonably conclude that these factors would tend to add to or detract from the bottom line judgment of the financial analysis – that the Fund has reduced the Department's costs for administrative services.

Items potentially adding to net benefits

- Net Earnings: In the analysis above, the cost metric for the period during which the Fund has operated was the billings to customers, rather than business expenses. In fact, the Fund had net earnings (billings minus business expenses) of approximately \$2.5 million over the first seven years of operation, or \$0.3 million per year⁷. If business expenses were used instead of customer-experienced expenses, the average annual costs, in nominal dollars, would be further reduced, widening the margin of net benefit since creation of the Fund. It should be noted, however, that much of the net earnings of the Fund has been in Building Occupancy, where earnings from improvements have been booked in advance of expenditures. Conversely, the largest apparent business loss (negative net earnings) has been in Telephones, reflecting primarily a one-time writeoff of an original equipment asset which was likely over-valued at the time of Fund creation. Another source of net earnings has been the Payroll business line, which has accumulated reserves in anticipation of the one-time costs of system conversion.

Both Business Occupancy Improvements and Payroll have been excluded from the Continuing Business category, so it would not be appropriate to include their net earnings as an added economic benefit. Telephones was included as a continuing business, but the conversion of the book value of the physical asset to a financial cash asset had little, if any, effect on the operation of the business, nor on its financial viability. Therefore, while net earnings for continuing businesses might have been an added economic benefit, we have excluded net earnings from the analysis to avoid inclusion of inappropriate or misleading items.

- Product Substitution and Choice: The Fund gives customers the opportunity to make decisions on the mix, level, and quality of services. This has allowed customers to adapt to technological changes and to substitute, for example, LAN connections for telephone connections. It has also allowed customers to substitute for activities that are financed outside the Fund. For example, the flexibility to acquire supplies, copying, or printing services may have allowed customers to make better use of current Federal staff and reduced use of contractors to prepare and disseminate information. Or, the availability of enhanced telephone or network services may have reduced the need for travel.

While it cannot be proven empirically that better information and broader flexibility for managers will reduce in more cost-effective operations, expanding choice is, in directional terms, an advantage of the Fund compared to the pre-Fund years, when services were rationed by non-market means. That is, an \$80 million annual expenditure that reflects customer priorities would be expected to have higher value for the accomplishment of the Department's missions than the same level of expenditure in centrally-rationed services.

- Product Development and Innovation: There are sound methodological reasons for including only "continuing businesses" in the financial evaluation, but it is clear from, for example,

⁷ Working Capital Fund FY 2003 Annual Report.

Figure I, that there are new and growing businesses that did not exist when the Fund was created. On-Line Learning, cellular phone, the DOE-wide Network (DOEnet), purchase card surveillance through data-mining, and digitization are all examples of products that were not in widespread use or did not even exist when the Fund was created. Also included within this set of new or expanding businesses are products that may have existed before the Fund but which were financed by customer organizations outside the Fund. Some new products, notably those of the Project Management Career Development Program, were required by the Congress to be included in the Fund; others were added by the Working Capital Fund Board or senior DOE management.

The question is whether the Fund benefits extend beyond the cost reductions in continuing businesses because the Fund financial management and governance structures enable the Department to start, expand, contract, and stop new activities as technologies are developed or program organization requirements change. This benefit of the Fund cannot be readily quantified, but it is reasonable to suppose that the benefit is positive.

Items Potentially Reducing Net Benefits

- Fund administrative costs (direct): The Department spends approximately \$120,000 annually for contractual services related to the administration of the Fund. These costs include the development and maintenance of the monthly billing system plus professional assistance to business lines in preparation of five-year plans. The costs have been financed through unbilled contributions to the Fund from the Office of Management, Budget and Evaluation/CFO (formerly the Office of Management and Administration, hence they are not included in business earnings and would be additive to the Fund costs discussed above. It should be noted, however, that at least some of the administrative overhead of the Fund would have been incurred under continued direct appropriations for the Fund services. If the Fund had not been created, it is possible that the need for non-price “rationing” of centrally-funded services would have required more expensive management systems than those employed for the Fund.
- Headquarters Population Decreases: Headquarters population, including contractors as well as Federal employees, decreased from a peak of about 7,700 in 1995 to approximately 6,600 in the first year of the Fund. Since then, population has fluctuated around 6,300 at the Headquarters complex. It is unlikely that, without the Fund, there would have been a proportional decrease in spending levels, since some Fund businesses finance infrastructure that is characterized by costs that are fixed in the near-term. However, it needs to be acknowledged that at least some of the observed cost savings may have occurred without the creation of the Fund.

Items with Uncertain Impact

- Business Accounting: The Fund uses business-type financial accounting that capitalizes certain costs but reflects depreciation on the current capital stock. Among other things, this has permitted the Fund to accumulate and invest cash to replace or upgrade capital equipment, and there have been significant upgrades in telephone switching equipment and

copiers.⁸ Likewise, the Fund uses business-type accounting for inventory transactions, and these business concepts have been built into the pricing policies that have become the basis for the earnings. In contrast, the obligation accounting for the FY 1993-96 base period does not reflect these business concepts. It is not known at this point whether, had business accounting been applied during the earlier periods, implied business expense levels would have been higher (due to depreciation and inventory drawdown) or lower (due to capital acquisition and inventory increases) than the obligation levels used for comparison purposes.

- Business Subsidies: The parent organizations of Fund businesses (MBE/CFO and CIO) have subsidized the businesses and their customers by an estimated 15% of billings in FY 2003, a level comparable to prior years. Most of this subsidy is attributable to the fact that the Fund does not pay for an estimated \$9.2 million in salaries and benefits for Federal employees that are associated with the businesses, including the small central staff associated with billing and management oversight. During the period of Fund operation, there is evidence of a gradual but minor (1%/year) decline in the number of Federal employees supporting the operations of continuing businesses, as defined in this study. However, it is unclear whether this trend would have extended back in time to the period before the Fund was created, since the parent organization's staffing decreased substantially in the mid-1990's, during the same period the Fund was being planned. It is also unclear whether and how this decline could be attributed to the creation of the Fund rather than to other factors.
- It is possible that some customer organizations have taken advantage of the opportunity to acquire services from outside vendors rather than through the Fund organizations. To the extent that this has occurred, then the savings estimates provided above overstate the total net benefits of the Fund. However, the availability of alternatives may also have stimulated Fund businesses to become more competitive in both pricing and quality. The evidence on this point is very limited. Probably the strongest evidence is the drop-off in customer interest in using the Fund for computer hardware repair services, when new equipment purchases with warranties may have become more attractive.

Many of the factors cited above are either offsetting in direction or uncertain in both direction and magnitude. The judgment of the Fund professional staff is as presented at the end of the main body of the paper: notwithstanding the inevitable analytic limitations, this analysis shows a clear, systematic, and substantial pattern of cost reduction since the creation of the Fund.

⁸ The building upgrades have been factored into the analysis by deleting WCF earnings associated with tenant improvements.

